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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,340	10/10/2003	Tatsuo Hiroshima	021265A	8719

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EXAMINER

AURORA, REENA

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/682,340

Applicant(s)

HIROSHIMA, TATSUO

Examiner

Reena Aurora

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/260,521.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/10/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: in line 4 the phrase "the exciting coil side" lacks antecedent basis and in line 5 the phrase "the one side apart" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Neumaier (4,016,487).
3. As to claim 1, Neumaier discloses an arrangement of eddy current scanning coils including an exciting coil (42, fig 6) and a plurality of detecting coils (43, fig. 6 and fig. 11 shows a plurality of inner coils acting as detection coils including identical characteristic of type 41 coils in fig. 6) positioned on a center axis of the exciting coil (outer coil in fig. 11 and 42 in fig. 6) so that center axes (11, fig. 1) of the detecting coils are in a plurality of different directions (Fig. 11) respectively crossing a center axis direction of the exciting coil (outer coil in fig. 11 and 42 in fig. 6).

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4. As to claim 3, Neumaier discloses an arrangement of eddy current scanning coils wherein each of the plurality of detecting coils (43, fig. 6 in conjunction with fig. 11 shows plurality of detecting coils) is composed of a conductor wound in a shape of a polygon (43), and is positioned by placing one side of the polygon on the exciting coil side and placing a vertex to the one side apart from the exciting coil.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumaier (4,016,487) in view of Shimada et al. (4,258,319).

7. As to claims 2 and 4, Neumaier discloses an arrangement of eddy current scanning coils as explained above. Neumaier fails to disclose a selector for selecting a maximum output voltage from output voltages of the plurality of detecting coils. Shimada et al. (hereinafter referred to as Shimada) discloses a surface defect detecting apparatus including a selector (44, 45) for selecting a maximum output voltage (55 - 58) from output voltages of the plurality of detecting coils (29a - 29h) (Fig. 7, Column 9, lines 25 - 38). It would have obvious to one skilled in the art to provide the device of Neumaier with a selector for selecting a maximum output voltage, as taught by Shimada. Inclusion of a selector for selecting a maximum output voltage would provide

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a flaw signal having the highest amplitude and further processing the signal would precisely determine the size of the flaw.

Prior Art of Record

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Neumaier (3,875,502) is cited for its disclosure of a coil arrangement and circuit for eddy current testing.
10. Golder et al. (6,437,573) is cited for its disclosure of an inductive sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reena Aurora whose telephone number is 571-272-2263. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 571-272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Reena Aurora


N. Lo
Supervisory Patent Examiner
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